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Michele Hallak-Stamler

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EXAMINER

KUMAR, ANIL N

ART UNIT

PAPER NUMBER

2174

NOTIFICATION DATE

DELIVERY MODE

09/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/712,955	Applicant(s) HALLAK-STAMLER, MICHELE	
	Examiner ANIL N. KUMAR	Art Unit 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-17,19-23 and 25-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-17,19-23 and 25-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed on May 22nd, 2007. Claims (1-7, 9-17, 19-23, and 25-50) are pending and have been considered below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-17, 19-23 and 25-50 are rejected under 35 U.S.C. 103(a) as unpatentable over van Rietschote (US 6757778 B1) in view of DeKoning et al. ("DeKoning ", US 6769022 B1) and in further view of Hirschfeld et al. ("Hirschfeld", US 2003/0051021 A1).

Claim 1: van Rietschote discloses a management engine (storage management system 24, column 2 lines 4-13 and Fig. 1) for configuring and managing networked components (virtualization switches), said management engine comprises:

- a virtual management unit (VMU) for creating virtual volumes (create new disk command, column 8 lines 9-20),

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- a data manager (DM) for facilitating communications with said virtualization switches (storage virtualizer 34, processing network commands and/or storage commands, cols 5/6 lines 63-5 and Fig. 1) wherein the data manager configures said cluster of virtualization switch by automatically applying volume parameters of a first virtualization switches connected in said cluster to a new virtualization switch added to said cluster (copy a virtual storage device, column 8 lines 9-20);

but does not disclose

- a graphical user interface (GUI) for allowing a user to perform at least graphical configuration operations and further displaying status indication.

However, DeKoning disclose Graphical User Interface to manage, configure and monitor a storage network by devices (column 2 lines 14-19).- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide this GUI feature for Storage Network Management, in van Rietschote. One would be motivated to provide a GUI-based storage management system so that even non-technical people can easily monitor, configure and maintain a storage network, which will result in savings of time and money for the organization,

- wherein said first virtualization switch and new virtualization switches are geographically distributed.

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However, Hirschfeld disclose; FIG. 2 is a block diagram of an exemplary embodiment of the virtualized logical server – switch - cloud 101 illustrating relationships between the logical servers 106 forming a logical server cloud 201, the bank of physical servers 108, a shared network 211 and the SCM 102, paragraphs [0034]-[0035]). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide this feature, in modified van Rietschote, as thought by Hirschfeld. One would be motivated to provide a cloud of virtualization switches, so that the users and non-technical people can easily access their storage, and not be physically near the storage device nor having to know where the physical storage device actually resides.

Claim 2: van Rietschote discloses that any virtual machine (storage management system) consists of data structures that are stored in files (database) (column 9 lines 1-3).

Claim 3: van Rietschote discloses that storage commands also include one or more parameters as defined by storage command API (column 11 lines 25-26).

Claim 4: van Rietschote discloses that "... generally the volume manager may support any RAID levels..." including mirroring and striping (column 11 lines 3-7 and Fig. 2).

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Claim 5: van Rietschote discloses that "... volumes may be used to abstract..." (column 6 lines 35-36).

Claim 6: van Rietschote discloses that "... physical storage may be any type of device capable of storing data...." (column 8 lines 37-48).

Claim 7: van Rietschote discloses that "... different types of storage networks... SAN and NAS..." (column 1 lines 18-21). From applicant's discussion of Prior Art, it is clear that most of the storage environment (SAN or NAS) contains switches and appliances (column 1 lines 18-21).

Claim 9: van Rietschote discloses a set of commands to create a virtual volume (column 8 lines 9-26).

Claim 10: van Rietschote discloses storage commands also include one or more parameters as defined by storage command API (column 11 lines 25-26).

Claim 11: DeKoning further disclose Graphical User Interface to distinguish between several regions (column 13 lines 14-17 and Fig. 6).

Claim 12: DeKoning further disclose a Graphical User Interface to display a tree structure (hierarchy) map (column 14 lines 7-12 and Fig. 7).

Claim 13: DeKoning further disclose a Graphical User Interface to display a device as an icon (column 13 lines 45-48 and Fig. 6)..

Claim 14: DeKoning further disclose a Graphical User Interface to display notifications for events (alerts) (column 9 lines 30-34 and Fig. 6).

Claim 15: DeKoning further disclose a Graphical User Interface to display notifications (alerts) (column 9 lines 30-34 and Fig. 6).

Claim 16: van Rietschote discloses an SNMP based management system that communicates with other network devices (column 4 lines 46-54 and Fig. 1).

Claim 17: van Rietschote discloses an embodiment of storing accessing a database (column 14 lines 36-53 and fig. 8).

Claim 19: Hirschfeld further disclose, wherein said management parameters are shared among all virtualization switches in said cluster (The shared storage resource 213 is primarily used for other purposes, such as backup storage of LS configurations, LS transfers between physical servers, storage of generic or template LS configurations, etc., paragraph [0051] and Fig. 5A).

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Claim 20 is similar in scope to claim 1, and therefore rejected under similar rationale.

Claim 21 is similar in scope to claim 3, and therefore rejected under similar rationale.

Claim 22: van Rietschote discloses that "... generally the volume manager may support any RAID levels..." including mirroring and striping (column 11 lines 3-7 and Fig. 2).

Claim 23 is similar in scope to claim 7, and therefore rejected under similar rationale.

Claims 25 and 26 are similar in scope to claim 9, and therefore rejected under similar rationale.

Claim 27: DeKoning further disclose, a tool bar (Fig. 6).

Claim 28: DeKoning further disclose, a tool bar buttons (Fig. 6).

Claim 29: van Rietschote disclose a set of commands to create, copy and move virtual volume (column 8 lines 9-26).

Claim 30: DeKoning further disclose, the steps for creating a new volume from a display screen (column 18 lines 13-15 and Fig. 9).

Claim 31: DeKoning further disclose, a Graphical User Interface to display a tree structure (hierarchy) map (column 14 lines 7-12 and Fig. 7).

Claim 32: DeKoning further disclose, a Graphical User Interface to display a device as an icon (column 13 lines 45-48 and Fig. 6).

Claim 33 is similar in combination to claims 1 and 19, and therefore rejected under similar rationale.

Claim 34: DeKoning further disclose, Graphical User Interface to distinguish between several regions (column 13 lines 14-17 and Fig. 6).

Claim 35 is similar in combination to claims 14 and 15, and therefore rejected under similar rationale.

Claim 36 is similar in scope to claim 3, and therefore rejected under similar rationale.

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Claim 37 is similar in scope to claim 4, and therefore rejected under similar rationale.

Claim 38 is similar in scope to claim 10, and therefore rejected under similar rationale.

Claim 39 is similar in scope to claim 9, and therefore rejected under similar rationale.

Claim 40 is similar in combination to claims 27 and 30, and therefore rejected under similar rationale.

Claim 41 is similar in scope to claim 1 (synchronization is same as automatically applying), and therefore rejected under similar rationale.

Claim 42 is similar in scope to claim 33, and therefore rejected under similar rationale.

Claim 43 is similar in scope to claim 34, and therefore rejected under similar rationale.

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Claim 44 is similar in scope to claim 35, and therefore rejected under similar rationale.

Claim 45 is similar in scope to claim 36, and therefore rejected under similar rationale.

Claim 46 is similar in scope to claim 37, and therefore rejected under similar rationale.

Claim 47 is similar in scope to claim 38, and therefore rejected under similar rationale.

Claim 48 is similar in scope to claim 39, and therefore rejected under similar rationale.

Claim 49 is similar in scope to claim 40, and therefore rejected under similar rationale.

Claim 50 is similar in scope to claim 41, and therefore rejected under similar rationale.

Response to Arguments

4. Applicant's arguments filed on May 22nd, 2008 have been fully considered but they were found not persuasive.

A. Applicant in the telephone interview had suggested that although the prior art reads on parts of the invention as it applies to a single invention, it lacks the "automatically duplicating the configuration parameters" as it applies in a clustered environment. The examiner had agreed to review the prior art in view of the applicant's explanation of the invention and the filed Arguments/Remarks argued, and has concluded that the cited prior art does indeed suggest the claimed features. For example, van Rietschote clearly teach, that the cluster server 50 may monitor each application and the resources it needs (columns 9/10 lines 62-10). Moreover, monitoring of new systems being added/deleted to the cluster, and mapping predetermined cluster parameters, to the new systems, is very well known in the cluster management art.

B. Applicant argues, for claim 1, "There is no suggestion in van Rietschote of a data manager that accesses the virtualization switches (and not the storage devices) for configuring a cluster of virtualization switches by automatically applying volume parameters of a first virtualization switch connected in the cluster to each new virtualization switch added to the cluster." The Examiner

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respectfully disagrees and maintains the rejection. van Rietschote clearly teach, a Storage Management System 24 (a software layer –similar to a switch- which operates between the operating system 14 and the physical hardware, column 3 lines 9-32 and Fig. 1) that includes various components such as, data manager (Remote Management Interface 32), virtualization switches (Storage Virtualizer 34), cluster (Cluster Server 50), Volume parameters (Volume Manager 38, implicit that it manages parameters). Furthermore, van Rietschote clearly teach, a storage management system may include one or more storage management components and may be configured to provide one or more virtual storage devices for use by the operating system (column 2 lines 4-13).

C. Applicant argues, “Copying data from one storage device to another as in van Rietschote does not suggest or even provide a hint of the claimed features with regard to volume parameters of a first virtualization switch”. The Examiner respectfully disagrees and points out van Rietschote clearly teach, that the volume manager 38 manages –not just copying- the storage of the volumes on the physical storage devices 30A-30B, based on the volume attributes – parameters- and the available storage (columns 6/7 and lines 47-8).

D. Applicant argues, “Virtualization software and virtualization servers (or desktop) are related to the art of virtual machines and cannot be viewed or interpreted as virtualization switches operating in storage networks.” The Examiner respectfully

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disagrees, and points out that Hirschfeld clearly teach, virtualization switches (The SCM may activate any one of the logical server instances which has sufficient capabilities and resources to meet demand at any given time and can dynamically switch between instances as demand changes, paragraph [0070]) and further teach, The storage resources 213, 219 may each comprise a single device (e.g. System Area Network (SAN)) or may be divided into multiple physical and logical devices (e.g., File Transfer Protocol (FTP) and Network Attached Storage (NAS) or the like) (paragraph [0037]).

- E. Applicant argues, "According to the Office Action the cloud of virtualization switches would allow users and non-technical people to easily access their storage and not be physically near the storage device or having to know where the physical storage device actually resides" The Examiner respectfully disagrees, and points out that it is just one of the motivations, and agrees with the applicant that "The location of the switches within the cluster is important", could be another motivation.
- F. Applicant argues, for claim 19, "The management parameters are not shared for the purposes of backups or template configurations, but rather for synchronizing parameters that are common to all switches, such as access control list (ACL)" The Examiner respectfully disagrees, and points out that claim

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language cites merely “sharing” and doesn’t explicitly claim the propose of “sharing”.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anil N. Kumar whose telephone number is (571) 270-1693. The examiner can normally be reached on Wednesdays and alternate Mon-Tue and Thu-Fri EST (Alternate Mon-Tue and Thu-Fri off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANK

/Stephen S. Hong/

Supervisory Patent Examiner, Art

Unit 2178

9/1/2008